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Amendments to the Claims:

1-5. (Cancelled)

6. (Currently Amended) A method of feeding water to heat transfer surfaces of a falling film evaporator having vertical evaporation channels having upper and lower ends, the method comprising:

5 spraying drops of water with absorbed atmospheric gases to distribute the water over the upper ends of the vertical evaporation channels of the falling film evaporator;  
simultaneously with the spraying, (1) separating the atmospheric gases from the water and (2) discharging the  
10 separated atmospheric gases such that the atmospheric gases are removed from the water and the water is distributed over the upper ends of the vertical evaporation channels;

evaporating the water from which the atmospheric gases have been removed in the vertical evaporation channels to  
15 generate water vapor with reduced atmospheric gas contamination;  
and,

discharging the water vapor with reduced atmospheric gas contamination from the lower ends of the vertical  
evaporation channels separately from the separated gases, and  
20 maintaining the water vapor separate from the separated gases to prevent dilution of the water vapor with whereby re-dissolution of the separated gases is prevented.

7. (Original) The method as defined in claim 6  
further including:

collecting the sprayed droplets into a layer of water  
above the upper ends of the vertical evaporation channels;  
5 separating additional atmospheric gases from the water layer;

feeding water from the water layer into the upper ends of the vertical evaporation channels.

8. (Cancelled)

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8. (Currently Amended) The apparatus as set forth in claim 8 <sup>3</sup> wherein the vertical evaporating channels upper end arrangement is confined to a circular area and ~~further including a hemispherical~~ the chamber mounted to the vertical  
5 evaporating channels upper end arrangement is hemispherical.

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10. (Currently Amended) ~~The An~~ apparatus as defined in claim 8 ~~further including for removing dissolved atmospheric gases from water, the apparatus comprising:~~  
a falling film evaporator which includes a plurality  
5 of vertical evaporating channels, the vertical evaporating channels having upper ends arranged in an evaporator channel upper end arrangement for receiving water to be vaporized, product vapor exiting from a lower end of the evaporator channels;  
10 a chamber covering the evaporator channels upper end arrangement;  
a perforated plate mounted in the chamber above and separated from the evaporator channels upper end arrangement;  
at least one spraying device disposed in the chamber  
15 to break the water into a spray of droplets, the spray of droplets being sprayed onto the plate, the water passing through perforations in the plate to the evaporator channel upper ends;  
and  
at least one dissolved gas outlet from the chamber  
20 for removal of the atmospheric cases separated from the water droplets during spraying before the water droplets enter the evaporating channels, such that the product vapor has a lower concentration of atmospheric gases than the water.

11-13. (Cancelled)